

# **CYCLOSPORIN A TREATMENT OF PSORIASIS**


|             | Patient #301 |           |           |            | Patient #302 |           | Patient #304 |            |           |
|-------------|--------------|-----------|-----------|------------|--------------|-----------|--------------|------------|-----------|
| PSI score   | 9            | 9         | 7         | 10         | 8            | 3         | 9            | 6          | 3         |
| Weeks       | 0            | 1         | 4         | 8          | 0            | 4         | 0            | 1          | 4         |
| SCCA2       | 448          | 514       | 260       | 302        | 211          | <u>3</u>  | 569          | <u>104</u> | <u>3</u>  |
| PI3         | 501          | 594       | 329       | 313        | 309          | <u>3</u>  | 661          | <u>118</u> | <u>3</u>  |
| SCCA1       | 83           | 146       | 89        | 72         | 43           | <u>3</u>  | 44           | <u>80</u>  | <u>3</u>  |
| SI00A9      | 482          | 565       | 318       | 296        | 381          | <u>14</u> | 646          | <u>284</u> | <u>3</u>  |
| SPRR2A      | 438          | 377       | 293       | 277        | 174          | <u>4</u>  | 592          | <u>99</u>  | <u>6</u>  |
| G1P2        | 15           | 11        | 18        | 18         | 88           | <u>4</u>  | 106          | <u>21</u>  | <u>3</u>  |
| GJB2        | 40           | 78        | 45        | 42         | 37           | <u>3</u>  | 34           | 41         | <u>3</u>  |
| HAL         | 40           | 69        | 30        | 45         | 36           | <u>3</u>  | 48           | 77         | <u>4</u>  |
| IFI56       | 12           | <u>5</u>  | 11        | 11         | 26           | <u>3</u>  | 14           | 12         | <u>2</u>  |
| MX1         | 30           | 27        | 28        | 23         | 27           | <u>5</u>  | 57           | <u>20</u>  | <u>3</u>  |
| SI00A12     | 25           | 25        | <u>8</u>  | 13         | 10           | <u>2</u>  | 35           | <u>6</u>   | <u>2</u>  |
| TGM3        | 113          | 103       | 67        | 77         | 42           | <u>3</u>  | 122          | <u>23</u>  | <u>7</u>  |
| IFNRG7A     | 17           | <u>4</u>  | 12        | 9          | 18           | <u>2</u>  | 20           | <u>11</u>  | <u>3</u>  |
| HBP17       | 37           | 24        | 27        | 26         | 45           | <u>6</u>  | 48           | <u>16</u>  | <u>7</u>  |
| SI00A7      | 424          | 618       | 268       | 262        | 363          | <u>67</u> | 596          | <u>365</u> | <u>5</u>  |
| TGM1        | 85           | 60        | 43        | 49         | 44           | <u>3</u>  | 56           | <u>12</u>  | <u>4</u>  |
| ATP1AL1     | 18           | 24        | 16        | 21         | 15           | <u>3</u>  | 59           | <u>10</u>  | <u>3</u>  |
| LKYHYD      | 16           | 21        | 14        | 11         | 8            | <u>3</u>  | 21           | <u>7</u>   | <u>3</u>  |
| SQLE        | 37           | 32        | 24        | 26         | 17           | <u>3</u>  | 56           | <u>30</u>  | <u>6</u>  |
| KCNC3       | 21           | 15        | 11        | 14         | 24           | <u>3</u>  | 36           | <u>4</u>   | <u>2</u>  |
| SPRR1B      | 295          | 410       | 223       | 203        | 234          | <u>20</u> | 393          | <u>159</u> | <u>49</u> |
| LGALS3BP    | 35           | 39        | 26        | 21         | 24           | <u>6</u>  | 39           | <u>26</u>  | <u>3</u>  |
| PPI3        | 18           | 14        | 11        | 12         | 5            | <u>2</u>  | 22           | <u>7</u>   | <u>3</u>  |
| CYBA        | 5            | 3         | 7         | 4          | 4            | <u>3</u>  | 3            | <u>9</u>   | <u>4</u>  |
| PRSS6       | 139          | 100       | 95        | 77         | 49           | <u>5</u>  | 145          | <u>56</u>  | <u>17</u> |
| SI00A2      | 350          | 308       | 226       | 229        | 300          | <u>69</u> | 477          | <u>96</u>  | <u>26</u> |
| PLSCR1      | 12           | 7         | 7         | 8          | 11           | <u>2</u>  | 18           | <u>3</u>   | <u>2</u>  |
| KRT17       | 395          | 338       | 227       | <u>189</u> | 249          | <u>14</u> | 356          | <u>45</u>  | <u>2</u>  |
| ID1         | 96           | 120       | 94        | <u>46</u>  | 58           | <u>29</u> | 82           | <u>63</u>  | <u>26</u> |
| CRABP2      | 161          | 125       | 133       | 109        | 150          | <u>20</u> | 221          | <u>55</u>  | <u>15</u> |
| FABP5       | 178          | 231       | 193       | 173        | 120          | <u>35</u> | 201          | <u>186</u> | <u>54</u> |
| RB1         | 10           | 13        | 9         | 6          | 10           | <u>4</u>  | 14           | 8          | <u>4</u>  |
| CSNK1A1     | 12           | <u>33</u> | 18        | 20         | 10           | <u>4</u>  | 16           | 21         | <u>5</u>  |
| IL4R        | 29           | 22        | 19        | 16         | 13           | <u>3</u>  | 35           | <u>5</u>   | <u>4</u>  |
| STAT1       | 21           | 37        | 16        | 16         | 13           | <u>3</u>  | 40           | <u>37</u>  | <u>6</u>  |
| TOP1        | 23           | 30        | 13        | 13         | 7            | <u>3</u>  | 30           | 20         | <u>4</u>  |
| NP          | 38           | 34        | 27        | 26         | 20           | <u>7</u>  | 47           | <u>15</u>  | <u>7</u>  |
| GNA15       | 39           | 28        | 26        | 23         | 17           | <u>4</u>  | 36           | 21         | <u>3</u>  |
| PGD         | 14           | 10        | <u>6</u>  | 8          | 4            | <u>2</u>  | 9            | <u>4</u>   | <u>2</u>  |
| RANBP1      | 30           | 21        | 21        | 21         | 18           | <u>4</u>  | 46           | <u>12</u>  | <u>6</u>  |
| K238_PERML1 | 5            | 9         | <u>10</u> | 4          | 7            | <u>3</u>  | 9            | 6          | <u>3</u>  |
| UBE2F       | 12           | <u>4</u>  | 8         | <u>6</u>   | 7            | <u>3</u>  | 18           | <u>4</u>   | <u>3</u>  |

FIGURE 1

|            |     |           |           |           |     |           |     |           |           |
|------------|-----|-----------|-----------|-----------|-----|-----------|-----|-----------|-----------|
| BENE       | 34  | 37        | 20        | 18        | 10  | <u>5</u>  | 34  | <u>11</u> | <u>5</u>  |
| IRAK1      | 42  | 36        | 42        | 26        | 25  | <u>9</u>  | 50  | <u>40</u> | <u>10</u> |
| TUBB2      | 111 | 111       | 103       | 93        | 37  | <u>15</u> | 98  | 112       | <u>34</u> |
| ELP1       | 27  | 35        | 21        | 24        | 7   | <u>3</u>  | 36  | 25        | <u>5</u>  |
| IFI27SEP   | 161 | 97        | 119       | 92        | 149 | <u>38</u> | 185 | <u>57</u> | <u>30</u> |
| PCSK4      | 46  | 56        | 24        | 39        | 21  | <u>4</u>  | 45  | 31        | <u>7</u>  |
| K111_NUK34 | 73  | 53        | 48        | 44        | 27  | <u>7</u>  | 73  | 41        | <u>12</u> |
| EIF5       | 21  | 17        | 11        | 11        | 5   | <u>2</u>  | 21  | 9         | <u>4</u>  |
| TSSC3      | 28  | <u>13</u> | <u>11</u> | 17        | 20  | <u>4</u>  | 29  | <u>8</u>  | <u>4</u>  |
| LDLR       | 20  | <u>20</u> | <u>8</u>  | <u>10</u> | 15  | <u>4</u>  | 19  | 11        | <u>5</u>  |
| GOT2       | 33  | 26        | 20        | 22        | 18  | <u>5</u>  | 30  | 16        | <u>6</u>  |
| GARS       | 43  | 49        | 45        | 42        | 26  | <u>11</u> | 39  | 62        | <u>15</u> |
| PHB        | 17  | 14        | 14        | 14        | 10  | <u>2</u>  | 13  | <u>3</u>  | <u>2</u>  |
| EIF2B      | 46  | 40        | 40        | 35        | 22  | <u>8</u>  | 35  | 22        | <u>8</u>  |
| RAB1       | 20  | 26        | 12        | 15        | 6   | <u>3</u>  | 22  | 16        | <u>4</u>  |
| EFELL2     | 8   | 10        | 6         | 6         | 4   | <u>3</u>  | 7   | 5         | <u>3</u>  |
| STAT3      | 33  | 28        | 19        | 23        | 14  | <u>5</u>  | 36  | <u>8</u>  | <u>3</u>  |
| PPP2CA     | 17  | 11        | 11        | 11        | 8   | <u>3</u>  | 22  | 14        | <u>6</u>  |
| OIAS       | 28  | 26        | 26        | 21        | 14  | <u>7</u>  | 15  | 16        | <u>10</u> |
| UBECS      | 21  | 16        | 15        | 14        | 13  | <u>7</u>  | 38  | <u>7</u>  | <u>5</u>  |
| EIF2A      | 31  | 24        | <u>14</u> | <u>15</u> | 11  | <u>5</u>  | 28  | <u>11</u> | <u>8</u>  |
| PSMB10     | 30  | <u>13</u> | <u>18</u> | <u>13</u> | 20  | <u>6</u>  | 39  | <u>10</u> | <u>3</u>  |
| PRKMK3     | 19  | 12        | 11        | <u>8</u>  | 5   | <u>4</u>  | 18  | 8         | <u>6</u>  |
| GSTP1      | 314 | 229       | 220       | 199       | 191 | <u>52</u> | 480 | <u>79</u> | <u>25</u> |
| S100A11    | 175 | 92        | <u>82</u> | 105       | 98  | <u>20</u> | 165 | <u>55</u> | <u>28</u> |
| CSTB       | 169 | 239       | 130       | 151       | 105 | <u>11</u> | 285 | <u>68</u> | <u>19</u> |
| ATOX1      | 55  | 39        | 38        | 37        | 24  | <u>10</u> | 55  | 31        | <u>11</u> |
| CDC25      | 20  | 15        | <u>9</u>  | <u>8</u>  | 11  | <u>4</u>  | 21  | 11        | <u>4</u>  |
| LAD1       | 82  | 56        | 46        | 46        | 35  | <u>11</u> | 86  | 33        | <u>14</u> |
| P55CDC     | 20  | 13        | 13        | 12        | 15  | <u>6</u>  | 32  | <u>5</u>  | <u>4</u>  |
| PRPHIH     | 54  | 43        | 42        | 41        | 24  | <u>7</u>  | 67  | <u>24</u> | <u>7</u>  |
| PGAM1      | 124 | 138       | 105       | 90        | 62  | <u>22</u> | 123 | <u>91</u> | <u>31</u> |
| TB3_1      | 17  | 15        | 10        | 13        | 6   | <u>4</u>  | 15  | 9         | <u>3</u>  |
| SCYA4      | 4   | 6         | 4         | 4         | 4   | <u>3</u>  | 9   | <u>4</u>  | <u>3</u>  |
| E_23773    | 13  | 12        | 8         | 8         | 8   | <u>3</u>  | 13  | 9         | <u>3</u>  |
| MDF1       | 6   | 11        | 6         | <u>3</u>  | 5   | <u>3</u>  | 5   | 4         | <u>2</u>  |
| CASP       | 9   | 10        | <u>3</u>  | 7         | 9   | <u>3</u>  | 15  | <u>7</u>  | <u>4</u>  |
| GPX3       | 38  | 30        | 29        | 20        | 25  | <u>6</u>  | 43  | <u>14</u> | <u>5</u>  |
| EIF5A      | 3   | 4         | 3         | 4         | 8   | <u>3</u>  | 4   | <u>3</u>  | <u>2</u>  |
| CBR        | 15  | <u>36</u> | <u>7</u>  | 17        | 16  | <u>8</u>  | 21  | <u>49</u> | <u>13</u> |
| COX5A      | 40  | 35        | 32        | 28        | 16  | <u>4</u>  | 51  | <u>30</u> | <u>6</u>  |
| HSN        | 76  | 78        | 51        | 54        | 51  | <u>24</u> | 63  | 44        | <u>17</u> |
| PSMHSC7    | 70  | 44        | 41        | 41        | 27  | <u>11</u> | 61  | <u>20</u> | <u>14</u> |
| UQCRFS1    | 45  | 46        | 33        | 36        | 23  | <u>8</u>  | 43  | <u>47</u> | <u>15</u> |
| MSE55      | 20  | <u>10</u> | 15        | 13        | 13  | <u>4</u>  | 15  | <u>7</u>  | <u>2</u>  |
| CYB561     | 5   | <u>5</u>  | 3         | 4         | 4   | <u>2</u>  | 6   | <u>4</u>  | <u>3</u>  |
| CDKN3      | 7   | 8         | 5         | 7         | 6   | <u>3</u>  | 17  | <u>3</u>  | <u>3</u>  |
| CD48       | 6   | 4         | 4         | 4         | 7   | <u>3</u>  | 4   | 5         | <u>3</u>  |
| SEC23B     | 13  | <u>6</u>  | 8         | 7         | 4   | <u>2</u>  | 18  | <u>3</u>  | <u>3</u>  |
| MAGEP15    | 18  | <u>24</u> | 14        | 14        | 8   | <u>4</u>  | 15  | <u>16</u> | <u>4</u>  |
| DLD        | 9   | 11        | <u>4</u>  | 7         | 5   | <u>4</u>  | 6   | 10        | <u>4</u>  |

FIGURE 1 CONT.

|         |     |     |     |     |    |     |     |     |     |
|---------|-----|-----|-----|-----|----|-----|-----|-----|-----|
| P4HB    | 120 | 115 | 88  | 73  | 46 | 31  | 149 | 76  | 25  |
| TP11    | 139 | 87  | 80  | 102 | 74 | 29  | 144 | 41  | 22  |
| BTG3    | 21  | 27  | 22  | 19  | 14 | 6   | 19  | 20  | 10  |
| ARF6    | 6   | 10  | 9   | 8   | 7  | 4   | 7   | 11  | 4   |
| PYRIDK  | 10  | 2   | 4   | 4   | 4  | 2   | 13  | 2   | 2   |
| ITBA2   | 16  | 10  | 14  | 8   | 8  | 3   | 23  | 10  | 4   |
| CSNK1E  | 4   | 11  | 9   | 6   | 10 | 5   | 6   | 21  | 8   |
| SDC4    | 24  | 15  | 16  | 15  | 16 | 18  | 22  | 13  | 17  |
| TESK1   | 4   | 3   | 2   | 2   | 3  | 4   | 2   | 3   | 4   |
| SPTAN1  | 9   | 4   | 6   | 4   | 4  | 4   | 4   | 5   | 6   |
| METPEP  | 37  | 17  | 22  | 43  | 23 | 46  | 42  | 32  | 38  |
| TMEM1   | 2   | 2   | 3   | 3   | 2  | 7   | 2   | 4   | 5   |
| KRT2A   | 85  | 62  | 157 | 180 | 56 | 188 | 172 | 410 | 230 |
| CRIP1   | 14  | 4   | 16  | 10  | 9  | 13  | 11  | 7   | 15  |
| CST6    | 54  | 39  | 61  | 47  | 23 | 36  | 102 | 136 | 83  |
| IGGFCBP | 2   | 3   | 3   | 3   | 2  | 9   | 3   | 4   | 5   |

=genes that increase in gene expression greater than 2 fold when compared to uninvolved skin


=genes that decrease in gene expression greater than 2 fold when compared to uninvolved skin

FIGURE 1 CONT.

# RhIL-11 TREATMENT OF PSORIASIS

|            | Patient #202 |     |     |     |     | Patient #203 |     |     |     |    | Patient #208 |     |     |     |
|------------|--------------|-----|-----|-----|-----|--------------|-----|-----|-----|----|--------------|-----|-----|-----|
| PSI score  | 11           | 11  | 9   | 9   | 9   | 10           | 10  | 7   | 4   | 4  | 7            | 6   | 6   | 5   |
| Weeks      | 0            | 1   | 4   | 8   | 12  | 0            | 1   | 4   | 8   | 12 | 0            | 1   | 4   | 5   |
| SCCA2      | 413          | 421 | 302 | 451 | 175 | 281          | 265 | 258 | 89  | 3  | 179          | 235 | 43  | 71  |
| PI3        | 407          | 633 | 623 | 567 | 299 | 477          | 249 | 280 | 82  | 3  | 199          | 290 | 84  | 124 |
| SCCA1      | 98           | 127 | 152 | 61  | 59  | 68           | 112 | 123 | 46  | 12 | 84           | 101 | 57  | 50  |
| S100A9     | 624          | 580 | 474 | 623 | 501 | 404          | 348 | 466 | 392 | 12 | 455          | 345 | 261 | 306 |
| SPRR2A     | 514          | 401 | 420 | 542 | 312 | 219          | 226 | 237 | 180 | 11 | 194          | 191 | 99  | 101 |
| G1P2       | 147          | 116 | 129 | 100 | 34  | 26           | 14  | 21  | 6   | 2  | 7            | 10  | 3   | 3   |
| GJB2       | 68           | 83  | 85  | 55  | 31  | 38           | 58  | 45  | 23  | 9  | 36           | 50  | 26  | 18  |
| HAL        | 41           | 41  | 64  | 61  | 32  | 43           | 70  | 91  | 40  | 13 | 69           | 47  | 33  | 40  |
| IFI56      | 45           | 31  | 26  | 40  | 18  | 18           | 11  | 10  | 4   | 3  | 4            | 4   | 3   | 4   |
| MX1        | 88           | 92  | 91  | 70  | 38  | 33           | 29  | 22  | 12  | 4  | 21           | 20  | 7   | 11  |
| S100A12    | 17           | 9   | 18  | 9   | 4   | 20           | 19  | 12  | 5   | 2  | 9            | 10  | 4   | 4   |
| TGM3       | 56           | 65  | 50  | 80  | 69  | 61           | 13  | 28  | 33  | 7  | 55           | 25  | 8   | 18  |
| IFNRG7A    | 30           | 18  | 22  | 19  | 13  | 12           | 8   | 3   | 4   | 2  | 3            | 3   | 3   | 2   |
| HBP17      | 25           | 48  | 36  | 35  | 28  | 90           | 27  | 38  | 36  | 10 | 17           | 18  | 9   | 7   |
| S100A7     | 613          | 609 | 489 | 666 | 531 | 465          | 455 | 519 | 518 | 86 | 513          | 384 | 352 | 359 |
| TGM1       | 46           | 63  | 51  | 36  | 31  | 47           | 24  | 32  | 20  | 4  | 22           | 24  | 6   | 11  |
| ATPIAL1    | 23           | 18  | 24  | 29  | 18  | 20           | 19  | 30  | 8   | 4  | 20           | 25  | 9   | 10  |
| LKYHYD     | 11           | 11  | 14  | 13  | 6   | 14           | 21  | 13  | 6   | 3  | 9            | 10  | 4   | 6   |
| SQLE       | 45           | 55  | 43  | 34  | 13  | 36           | 23  | 43  | 19  | 5  | 27           | 17  | 7   | 11  |
| KCNC3      | 17           | 7   | 9   | 10  | 5   | 14           | 7   | 8   | 4   | 2  | 4            | 5   | 3   | 3   |
| SPRR1B     | 455          | 420 | 366 | 533 | 332 | 325          | 219 | 203 | 283 | 87 | 149          | 180 | 90  | 118 |
| LGALS3BP   | 43           | 54  | 48  | 49  | 37  | 71           | 8   | 21  | 10  | 4  | 15           | 9   | 3   | 6   |
| PII3       | 20           | 18  | 21  | 18  | 6   | 21           | 4   | 9   | 9   | 2  | 4            | 6   | 3   | 3   |
| CYBA       | 17           | 11  | 19  | 30  | 12  | 8            | 9   | 18  | 7   | 2  | 6            | 9   | 3   | 6   |
| PRSS6      | 84           | 100 | 106 | 68  | 50  | 87           | 62  | 87  | 49  | 17 | 81           | 40  | 23  | 39  |
| S100A2     | 275          | 289 | 271 | 176 | 163 | 426          | 361 | 273 | 167 | 55 | 177          | 194 | 166 | 108 |
| PLSCR1     | 14           | 12  | 24  | 6   | 6   | 6            | 10  | 0   | 2   | 2  | 5            | 5   | 3   | 3   |
| KRT17      | 361          | 346 | 250 | 190 | 115 | 240          | 219 | 182 | 54  | 16 | 115          | 200 | 48  | 53  |
| ID1        | 113          | 82  | 138 | 73  | 45  | 58           | 59  | 94  | 52  | 16 | 48           | 48  | 16  | 32  |
| CRABP2     | 96           | 112 | 118 | 175 | 117 | 135          | 89  | 99  | 108 | 21 | 68           | 72  | 33  | 41  |
| FABP5      | 151          | 185 | 207 | 206 | 147 | 202          | 155 | 199 | 191 | 97 | 172          | 134 | 129 | 121 |
| RB1        | 14           | 13  | 14  | 15  | 10  | 11           | 8   | 9   | 8   | 3  | 6            | 6   | 4   | 4   |
| CSNK1A1    | 22           | 27  | 38  | 26  | 22  | 21           | 14  | 30  | 16  | 3  | 18           | 15  | 4   | 6   |
| IL4R       | 15           | 19  | 12  | 16  | 12  | 17           | 7   | 9   | 6   | 4  | 11           | 8   | 4   | 6   |
| STAT1      | 41           | 30  | 44  | 37  | 16  | 23           | 49  | 42  | 18  | 9  | 31           | 23  | 18  | 22  |
| TOP1       | 29           | 20  | 31  | 26  | 9   | 27           | 26  | 24  | 15  | 4  | 17           | 17  | 9   | 12  |
| NP         | 33           | 35  | 35  | 36  | 22  | 49           | 26  | 35  | 34  | 9  | 24           | 18  | 7   | 11  |
| GNA15      | 31           | 19  | 22  | 42  | 25  | 37           | 10  | 18  | 16  | 4  | 16           | 15  | 6   | 10  |
| PGD        | 18           | 7   | 18  | 17  | 6   | 15           | 6   | 13  | 10  | 2  | 6            | 8   | 2   | 4   |
| RANBP1     | 34           | 23  | 21  | 25  | 24  | 18           | 10  | 15  | 16  | 2  | 13           | 14  | 2   | 4   |
| K238_PERM1 | 11           | 11  | 13  | 11  | 5   | 6            | 7   | 7   | 3   | 3  | 7            | 10  | 3   | 4   |
| UBE2F      | 15           | 9   | 7   | 11  | 7   | 17           | 4   | 9   | 3   | 3  | 5            | 4   | 3   | 3   |
| BENE       | 25           | 41  | 36  | 23  | 16  | 37           | 28  | 28  | 19  | 7  | 22           | 15  | 12  | 10  |
| IRAK1      | 54           | 45  | 40  | 44  | 33  | 55           | 38  | 36  | 32  | 12 | 37           | 22  | 23  | 17  |
| TUBB2      | 125          | 116 | 118 | 131 | 68  | 76           | 99  | 78  | 63  | 32 | 72           | 48  | 46  | 41  |
| ELP1       | 23           | 24  | 25  | 38  | 18  | 31           | 29  | 30  | 28  | 7  | 20           | 18  | 6   | 9   |
| IFI27SEP   | 188          | 189 | 182 | 300 | 163 | 118          | 76  | 78  | 133 | 23 | 60           | 66  | 27  | 45  |
| PCSK4      | 25           | 37  | 36  | 26  | 11  | 25           | 46  | 34  | 13  | 9  | 26           | 26  | 13  | 14  |
| K111_NUK34 | 41           | 46  | 47  | 50  | 25  | 48           | 32  | 47  | 31  | 5  | 33           | 25  | 6   | 12  |
| EIF5       | 15           | 14  | 16  | 15  | 9   | 12           | 12  | 13  | 9   | 3  | 10           | 8   | 4   | 5   |
| TSSC3      | 40           | 15  | 38  | 17  | 14  | 31           | 18  | 23  | 11  | 6  | 17           | 21  | 4   | 9   |
| LDLR       | 17           | 16  | 23  | 21  | 10  | 31           | 20  | 22  | 19  | 6  | 13           | 16  | 6   | 7   |
| GOT2       | 17           | 28  | 29  | 22  | 16  | 37           | 22  | 30  | 19  | 6  | 23           | 18  | 12  | 12  |
| GARS       | 43           | 56  | 60  | 66  | 35  | 50           | 80  | 71  | 53  | 26 | 65           | 45  | 44  | 38  |
| PHB        | 13           | 16  | 11  | 13  | 11  | 13           | 4   | 14  | 7   | 2  | 9            | 10  | 3   | 4   |
| EIF2B      | 27           | 42  | 32  | 49  | 27  | 52           | 27  | 39  | 35  | 9  | 26           | 20  | 14  | 13  |
| RAB1       | 20           | 22  | 23  | 27  | 13  | 21           | 12  | 17  | 21  | 3  | 13           | 10  | 4   | 5   |
| EFELL2     | 10           | 6   | 10  | 12  | 8   | 11           | 8   | 6   | 11  | 3  | 9            | 6   | 3   | 5   |
| STAT3      | 13           | 16  | 19  | 21  | 11  | 24           | 9   | 10  | 16  | 5  | 12           | 11  | 4   | 4   |
| PPP2CA     | 17           | 10  | 12  | 10  | 6   | 10           | 13  | 13  | 9   | 4  | 10           | 7   | 6   | 7   |
| OIAS       | 17           | 15  | 25  | 25  | 25  | 30           | 15  | 17  | 18  | 4  | 20           | 13  | 6   | 10  |
| UBECS      | 21           | 12  | 21  | 25  | 14  | 26           | 15  | 17  | 20  | 5  | 11           | 11  | 4   | 7   |
| EIF2A      | 16           | 13  | 14  | 17  | 14  | 28           | 13  | 14  | 15  | 5  | 14           | 10  | 6   | 8   |
| PSMB10     | 19           | 21  | 23  | 26  | 17  | 9            | 12  | 12  | 11  | 3  | 10           | 13  | 4   | 8   |

FIGURE 2

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| PRKMK3   | 19  | 14  | 13  | 9   | 7   | 16  | 7   | 8   | 12  | 4   | 8   | 6   | 4   | 6   |
| GSTP1    | 165 | 195 | 170 | 268 | 171 | 271 | 102 | 159 | 190 | 26  | 124 | 87  | 48  | 66  |
| SI00A11  | 117 | 86  | 121 | 119 | 90  | 106 | 85  | 61  | 94  | 23  | 67  | 77  | 17  | 37  |
| CSTB     | 253 | 225 | 263 | 239 | 148 | 138 | 122 | 117 | 110 | 21  | 128 | 120 | 41  | 61  |
| ATON1    | 48  | 34  | 31  | 61  | 48  | 67  | 26  | 39  | 52  | 9   | 22  | 16  | 11  | 18  |
| CDC25    | 25  | 28  | 25  | 21  | 17  | 13  | 15  | 7   | 8   | 3   | 9   | 9   | 6   | 5   |
| LAD1     | 51  | 57  | 54  | 58  | 56  | 72  | 41  | 51  | 38  | 17  | 48  | 31  | 20  | 24  |
| P55CDC   | 15  | 15  | 16  | 16  | 16  | 24  | 11  | 14  | 15  | 5   | 8   | 8   | 4   | 6   |
| PRPH11   | 29  | 32  | 35  | 52  | 38  | 45  | 7   | 38  | 50  | 7   | 28  | 16  | 4   | 15  |
| PGAM1    | 111 | 84  | 101 | 121 | 83  | 114 | 143 | 106 | 92  | 56  | 103 | 100 | 45  | 67  |
| TB3_1    | 11  | 13  | 9   | 12  | 9   | 13  | 11  | 11  | 13  | 4   | 9   | 8   | 6   | 6   |
| SCYA4    | 8   | 6   | 11  | 5   | 5   | 7   | 8   | 7   | 2   | 4   | 5   | 7   | 3   | 4   |
| E_23773  | 14  | 9   | 11  | 16  | 8   | 13  | 13  | 11  | 12  | 4   | 10  | 7   | 4   | 7   |
| MDFI     | 9   | 8   | 12  | 6   | 6   | 6   | 9   | 7   | 4   | 3   | 8   | 6   | 3   | 4   |
| CASP     | 18  | 13  | 18  | 35  | 16  | 17  | 13  | 21  | 26  | 3   | 6   | 6   | 3   | 5   |
| GPX3     | 28  | 27  | 27  | 30  | 25  | 39  | 24  | 26  | 19  | 4   | 13  | 13  | 4   | 9   |
| EIF5A    | 18  | 18  | 25  | 9   | 6   | 20  | 32  | 35  | 13  | 4   | 3   | 4   | 2   | 3   |
| CBR      | 29  | 19  | 23  | 42  | 21  | 17  | 26  | 22  | 17  | 10  | 20  | 13  | 10  | 9   |
| COX5A    | 36  | 29  | 43  | 43  | 27  | 35  | 30  | 36  | 26  | 10  | 33  | 23  | 13  | 16  |
| HSN      | 100 | 111 | 89  | 97  | 68  | 75  | 84  | 71  | 77  | 32  | 63  | 49  | 43  | 34  |
| PSMHSC7  | 41  | 29  | 37  | 61  | 33  | 52  | 25  | 24  | 43  | 12  | 26  | 22  | 10  | 15  |
| UQCRRF51 | 42  | 46  | 55  | 53  | 28  | 55  | 51  | 56  | 38  | 11  | 45  | 38  | 12  | 20  |
| MSE55    | 13  | 7   | 11  | 15  | 12  | 26  | 12  | 12  | 19  | 4   | 9   | 8   | 4   | 6   |
| CYB561   | 6   | 6   | 4   | 6   | 5   | 7   | 4   | 5   | 6   | 3   | 4   | 4   | 2   | 3   |
| CDKN3    | 8   | 7   | 6   | 6   | 6   | 9   | 8   | 5   | 7   | 3   | 4   | 3   | 3   | 3   |
| CD48     | 9   | 7   | 6   | 7   | 8   | 9   | 6   | 7   | 6   | 3   | 5   | 4   | 3   | 5   |
| SEC23B   | 9   | 6   | 8   | 8   | 7   | 9   | 4   | 9   | 5   | 3   | 4   | 4   | 3   | 3   |
| MAGEP15  | 18  | 17  | 24  | 15  | 13  | 20  | 15  | 25  | 16  | 7   | 20  | 15  | 5   | 7   |
| DLD      | 9   | 6   | 6   | 9   | 6   | 11  | 11  | 10  | 9   | 4   | 7   | 6   | 5   | 4   |
| P4HB     | 90  | 82  | 89  | 119 | 65  | 56  | 53  | 74  | 59  | 18  | 70  | 49  | 36  | 38  |
| TPH1     | 65  | 74  | 80  | 138 | 99  | 123 | 65  | 79  | 112 | 27  | 83  | 59  | 33  | 41  |
| BTG3     | 25  | 15  | 24  | 27  | 18  | 20  | 18  | 22  | 20  | 8   | 25  | 15  | 6   | 12  |
| ARF6     | 15  | 7   | 17  | 19  | 12  | 5   | 6   | 11  | 7   | 3   | 12  | 7   | 3   | 5   |
| PYRIDK   | 10  | 6   | 3   | 7   | 5   | 7   | 2   | 3   | 2   | 2   | 2   | 2   | 2   | 2   |
| ITBA2    | 28  | 14  | 16  | 16  | 17  | 9   | 7   | 9   | 5   | 2   | 10  | 8   | 3   | 4   |
| CSNK1E   | 15  | 25  | 22  | 12  | 13  | 9   | 20  | 29  | 14  | 14  | 25  | 17  | 17  | 17  |
| SDC4     | 18  | 14  | 14  | 19  | 19  | 35  | 20  | 20  | 43  | 18  | 20  | 6   | 9   | 14  |
| TESK1    | 5   | 4   | 3   | 4   | 5   | 3   | 2   | 2   | 4   | 3   | 2   | 3   | 3   | 3   |
| SPTAN1   | 6   | 5   | 4   | 8   | 8   | 6   | 4   | 4   | 4   | 4   | 4   | 4   | 3   | 4   |
| METPEP   | 5   | 5   | 6   | 7   | 19  | 6   | 11  | 11  | 29  | 22  | 30  | 26  | 14  | 32  |
| KRT2A    | 52  | 73  | 53  | 174 | 205 | 156 | 112 | 199 | 398 | 253 | 495 | 86  | 259 | 327 |
| CRIP1    | 9   | 7   | 6   | 25  | 30  | 26  | 18  | 15  | 75  | 13  | 14  | 4   | 9   | 12  |
| CST6     | 72  | 44  | 55  | 126 | 126 | 89  | 56  | 129 | 230 | 52  | 91  | 40  | 37  | 74  |
| IGGFCBP  | 6   | 4   | 3   | 6   | 6   | 3   | 3   | 4   | 5   | 3   | 3   | 4   | 4   | 3   |

**■**=genes that increase in gene expression greater than 2 fold when compared to uninvolved skin  
**■**=genes that decrease in gene expression greater than 2 fold when compared to uninvolved skin

FIGURE 2 CONT.



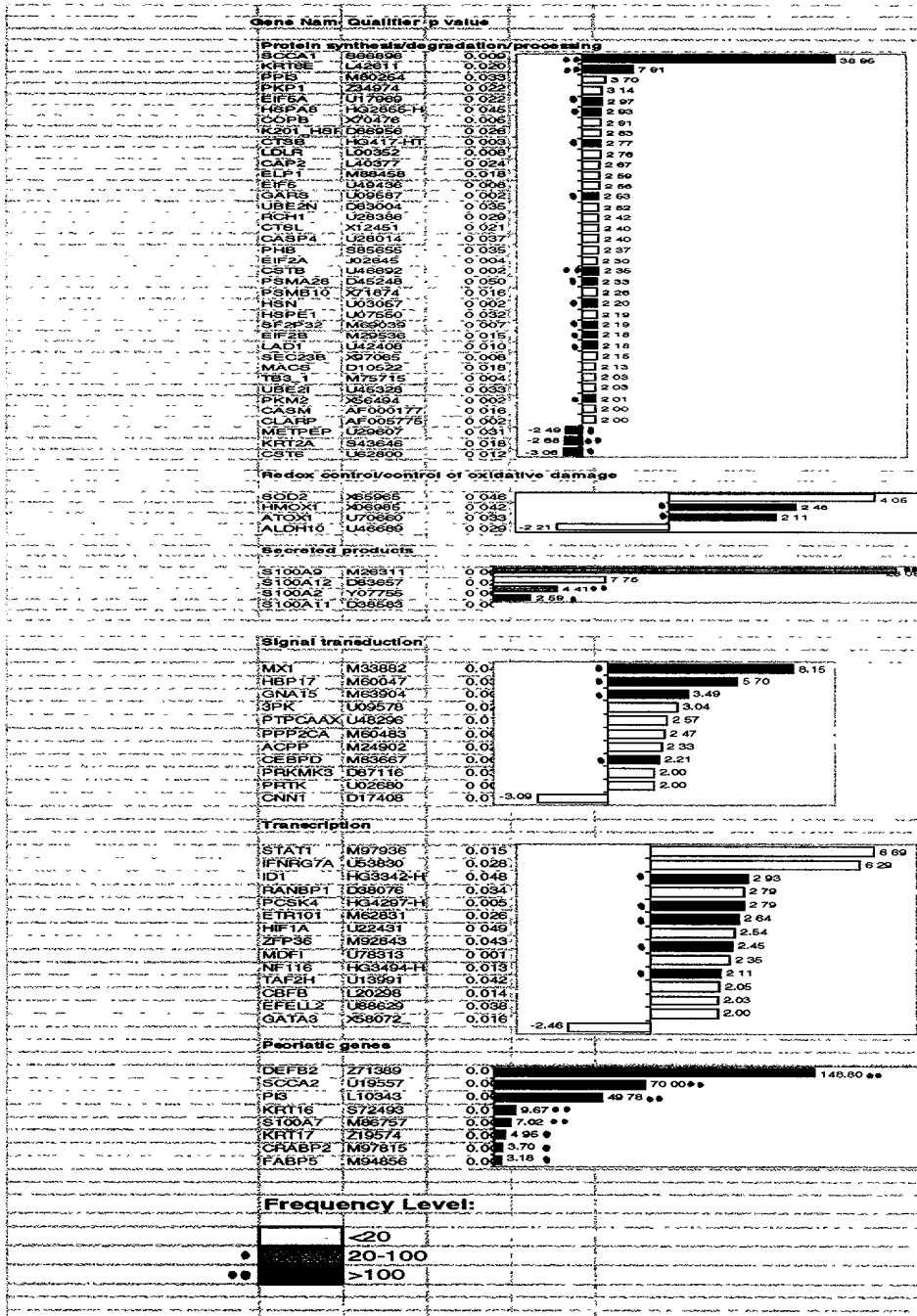
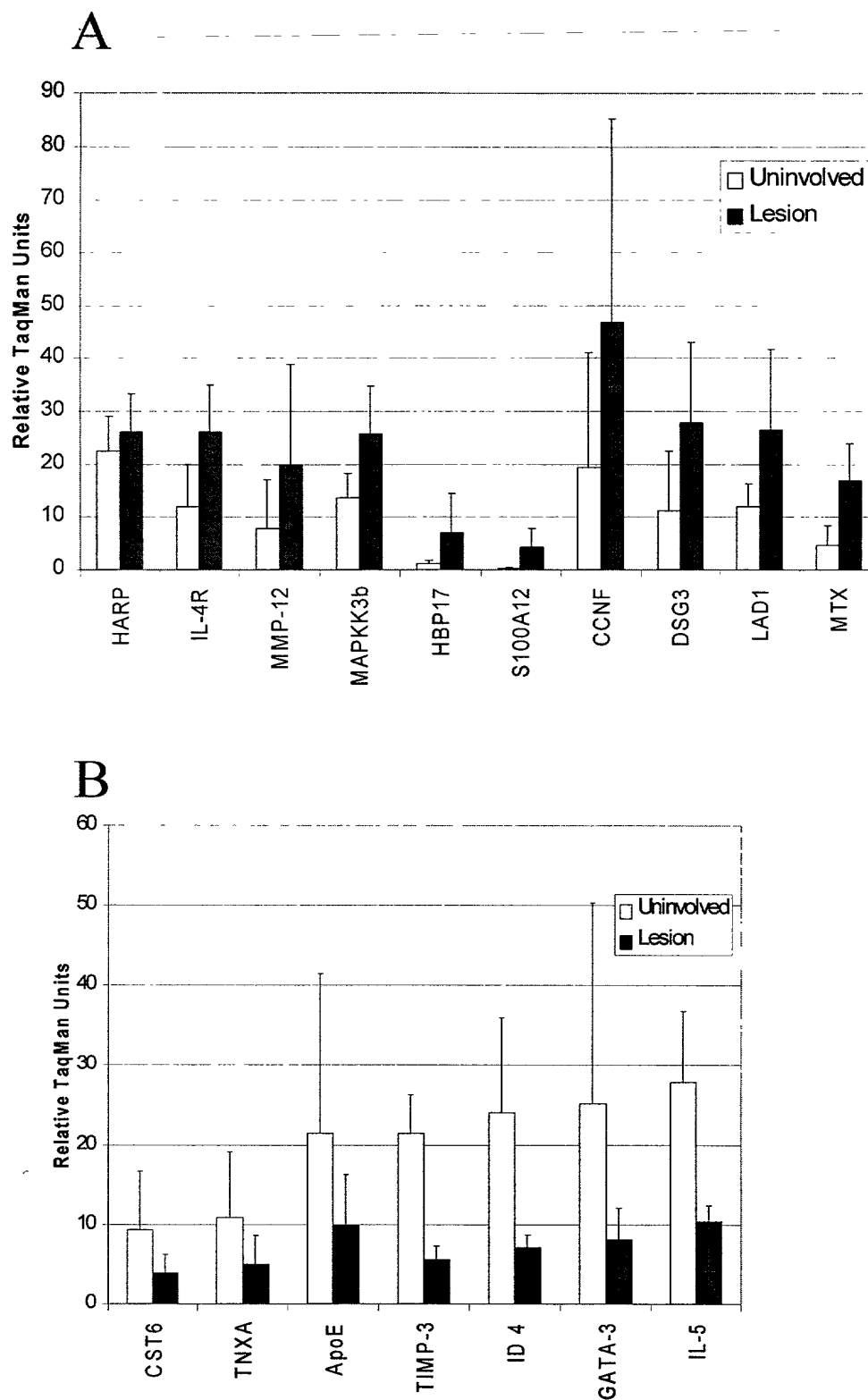


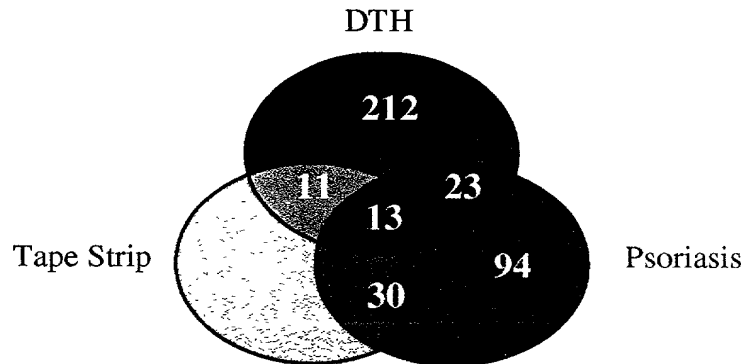
FIGURE 3 CONT.



**FIGURE 4**



A



B

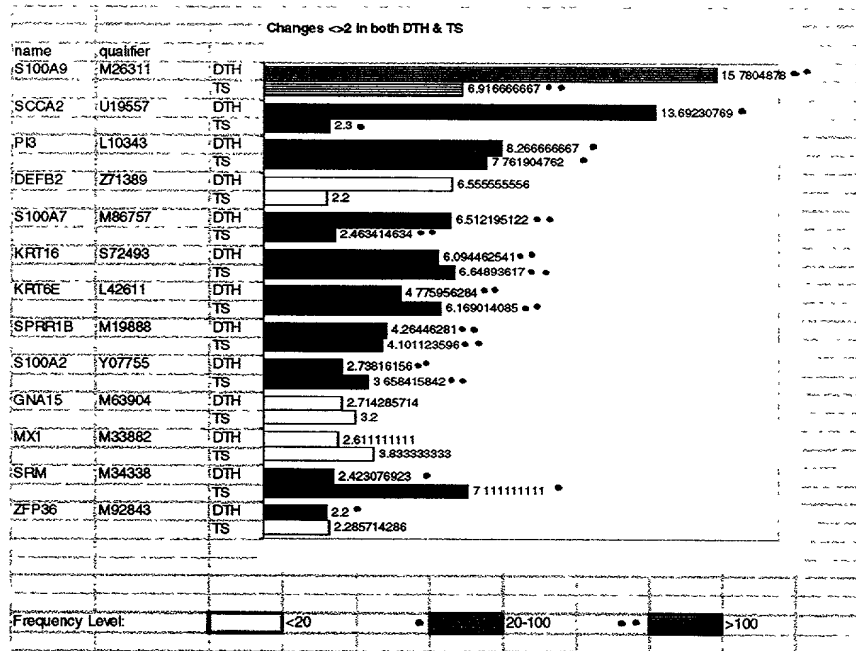
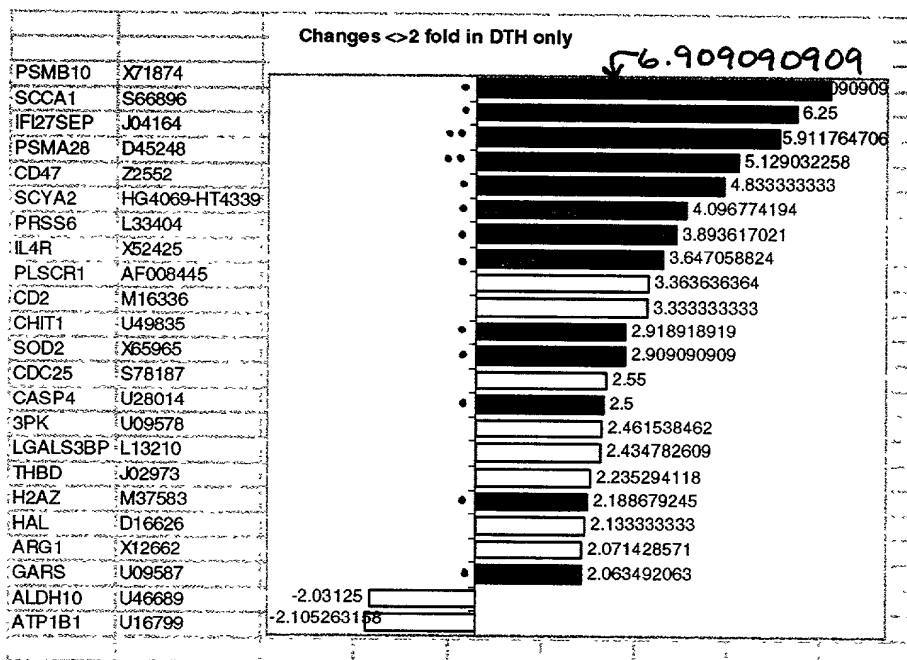


FIGURE 5

C



D

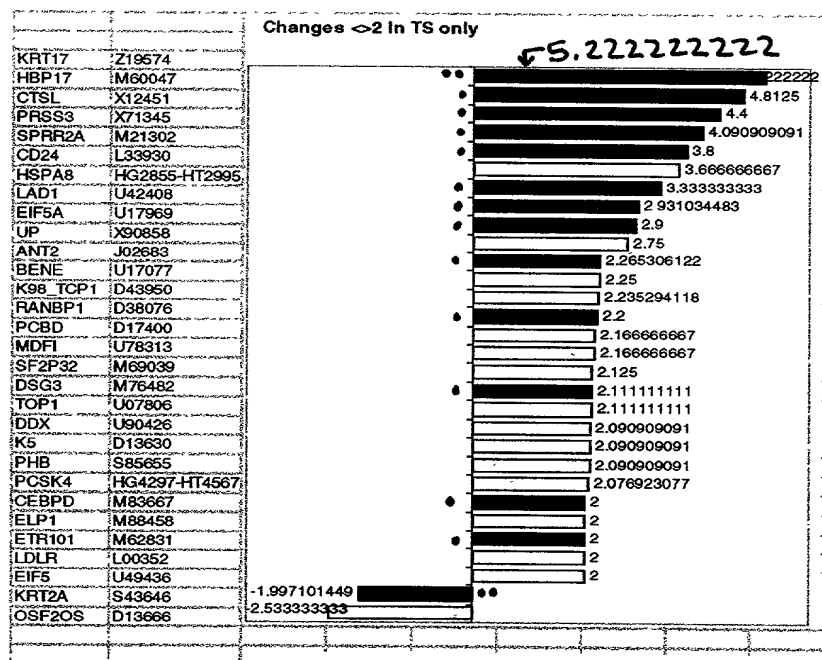


FIGURE 5 CONT.



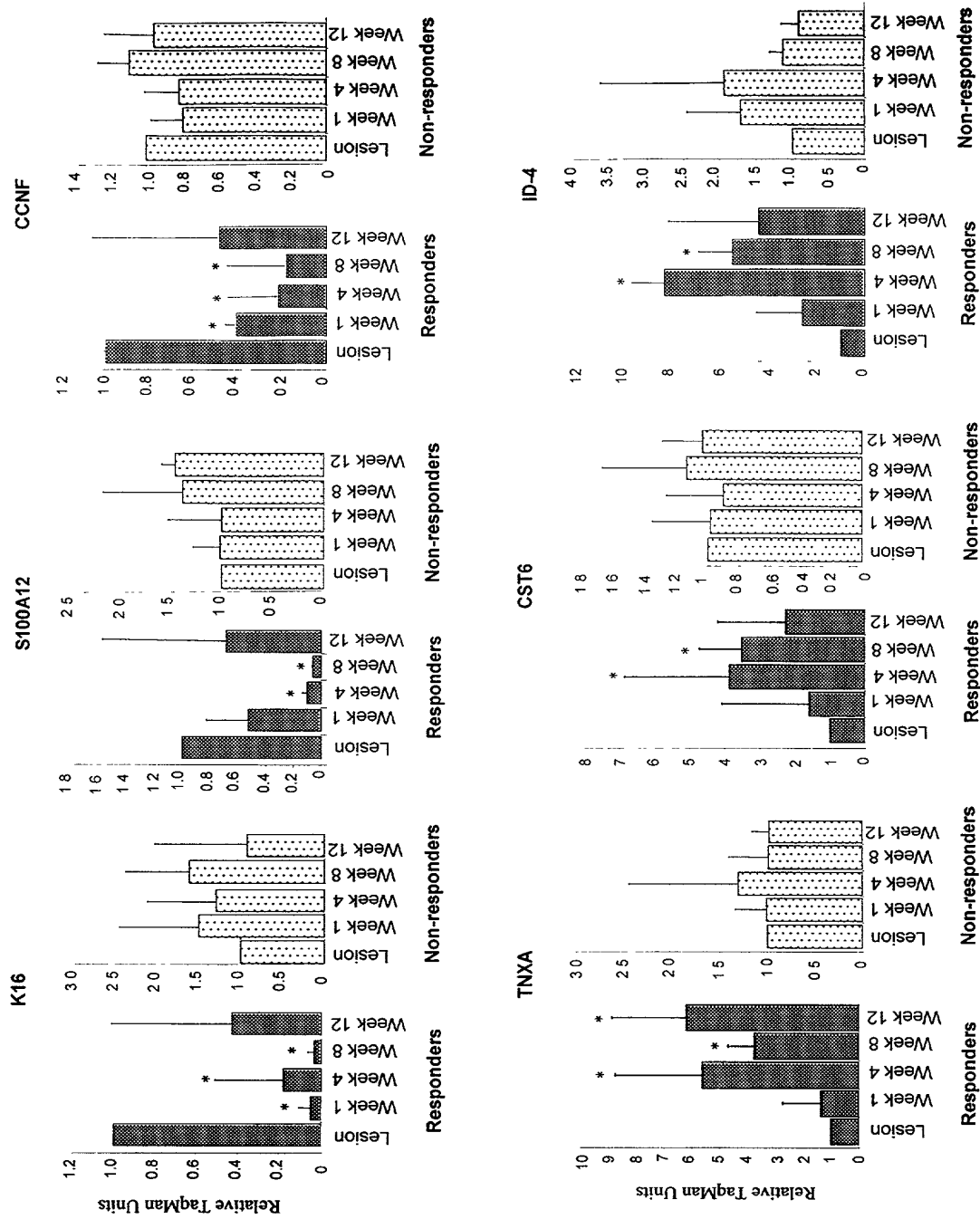


FIGURE 7